



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,929	03/01/2004	Nobuto Kawahara	CFA00052US	3249

7590 09/30/2005
Canon U.S.A. Inc.
Intellectual Property Department
15975 Alton Parkway
Irvine, CA 92618-3731

EXAMINER

NGUYEN, HUNG

ART UNIT	PAPER NUMBER
----------	--------------

2851

DATE MAILED: 09/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/790,929	KAWAHARA, NOBUTO	
	Examiner	Art Unit	
	Hung Henry V. Nguyen	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 18 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 18 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/19/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of group I (claims 1-7, 18-19) in the reply filed on September 1, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "64". Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 18 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by Tanaka et al (U.S. 2005/0041226 A1).

With respect to claim 18, Tanaka discloses an exposure apparatus and corresponding method and comprising all steps as set forth in the instant claim such as: a step for irradiating a pattern formed on an original plate (R) with the light emitted from a light source (1) and a step of projecting a light image from the pattern onto a substrate (W) and a step of casting the light emitted from the light source onto a light absorber (136A) disposed on a driver substrate stage (136) for mounting the substrate. (see figure 8 and section [0204]).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2851

6. Claims 1-5 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al (US 2005/0041226 A1) in view of Emoto (US 2003/0035988 A1).

As to claims 1, 3-5 and 19, Tanaka discloses an exposure apparatus and corresponding method comprising substantially all of the limitations of the instant claims including a light absorber disposed on the substrate stage, as discussed above. Tanaka lacks to show the light absorber being disposed on the substrate stage by a thermal insulating layer and/or a cooling unit and a heat-releasing member. However, these features are well known in the art. For example, Emoto discloses a position apparatus for supporting a substrate wherein a radiation plate (200)/light absorber is displaced on a cooling unit (202) and the cooling unit comprises a heat releasing member (108). In view of such teachings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Tanaka and Emoto to obtain the invention as specified in the instant claims. It would have been obvious to a skilled artisan to employ the cooling unit, as well as the heat-releasing member as taught by Emoto into exposure apparatus of Tanaka, for the purpose of reducing the heat produced from the substrate due to the exposure light and thus avoiding of the thermal expansion of the substrate and improving the quality of the images to be printed on the substrate.

As to claim 2, Tanaka as modified by Emoto does not expressly disclose the light absorber configured to exhibit the reflectivity of 1% or less of the light emitted from the light source. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the material of the light absorber having the light reflectivity of 1% or less for at least the purpose of avoid the scattering of the light whereby the deterioration of other optical elements of the exposure device can be prevented.

Art Unit: 2851

7. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al (US 2005/0041226 A1) in view of Emoto (US 2003/0035988 A1) and further in view of Mori (U.S.Pat. 6,268,904).

With respect to claims 6-7, Tanaka et al as modified by Emoto lacks to show does not expressly disclose a secondary light source for cleaning at least a part of the irradiation optical system or the projection optical system. Mori et al teaches using “a second light beam which is larger than the exposure light beam for performing photo cleaning in an exposure device (see col.3, lines 24-30). In view of such teachings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Tanaka as modified by Emoto and Mori to obtain the invention as specified in claims 6-7 of the present invention. It would have been obvious a skilled artisan to employ a secondary light source into the exposure apparatus of Tanaka as modified by Emoto, as suggested by Mori, for the purpose of cleaning off at least a part of the irradiation optical system or the projection optical elements so that the performance of these elements can be greatly improved.

Prior Art Made of Record

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Faure et al (U.S.Pat. 5,124,561) is cited for its teachings of an X-ray mask substrate having an X-ray absorbing material formed on the surface of the substrate.

Art Unit: 2851

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V. Nguyen whose telephone number is 571-272-2124. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hung Henry V Nguyen
Primary Examiner
Art Unit 2851

hvn
9/23/05